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US ARMY CORPS
OF ENGINEERS
New England District

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January, 2003

Working Group Meeting
Stamford, Connecticut

November 20, 2002

Meeting Summary

LONG ISLAND SOUND DREDGED MATERIAL DISPOSAL SITE DESIGNATION ENVIRONMENTAL IMPACT STATEMENT

Working Group Meeting
Stamford, Connecticut
November 20, 2002

Meeting Summary

for the

Long Island Sound Dredged Material Disposal Site Designation Environmental Impact Statement

Contract Number DACW33-01-D-004
Project Number Delivery Order 0013

to

U.S. Army Corps of Engineers
North Atlantic Division
New England District
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Introduction

On November 20, 2002, from 10:00 a.m. to 12:00 p.m. a Working Group Meeting on the Long Island Sound (LIS) Dredged Material Disposal Environmental Impact Statement (EIS) was held at the Bridgeport Holiday Inn in Stamford, Connecticut. Participants included members of the U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (EPA), Battelle, Coastal Vision, and members of the working group. Attachment 1 includes a list of meeting attendees.

Ann Rodney, EPA New England Region, began the meeting by giving a brief overview of past Working Group meetings and reviewed the meeting agenda. The meeting was set up as an open discussion focused on two presentations, *Results from the Alternative Site Field Sampling Program* and *Status of the Long Island Sound Dredged Material Disposal Site Designation EIS*. Handouts at the meeting included four fact sheets on the project (Attachment 2):

- *Alternative Site Screening*
- *Collection of Marine Biota for Contaminant Analysis*
- *Field Program for Alternative Disposal Sites*
- *Results of Field Program at Alternative Disposal Sites*

Results of the Alternative Site Field Sampling Program
Dr. Carlton Hunt of Battelle gave a presentation on the results of the field sampling program conducted at the Bridgeport and Milford historic disposal sites in July and August 2002. Attachment 3 is the slide presentation given by Dr. Hunt.

An overview of the sites sampled and analyses performed was presented. The status of the analyses and the data interpretation was also presented for those areas where data are presently available. The map developed from the data collected during the Lobster Resource Meetings was also presented and discussed.

Questions asked by participants and answers given at the meeting are provided below.

Q- When was the last time the historic sites were used?
A- The late 1960's to early 1970's.

Q- Then the site screening determined that historic sites should be considered?
A- According to the MPRSA Criteria 228.5(d), historic sites should be considered when assessing alternative sites. Use of previously used dump sites would avoid modifying the bottom type and habitat of additional areas of the Sound.

Q- Are you considering Bridgeport and Milford as sites or benchmarks?
A- Each of these sites is considered as one of the four alternatives being considered in the EIS as an alternative for dredged material disposal.

Q- Were similar tests done at the active sites and will they all be compared in the EIS?
A- Similar tests to those performed at Bridgeport and Milford have been performed at WLIS and CLIS. The results of testing at these sites will be described in the Affected Environment chapter and compared in the Environmental Consequences section of the EIS.

Q- Is the toxicity at the Alternative Sites similar to active sites?

A- Yes; earlier sampling of the active disposal sites showed no evidence of adverse toxicity similar to what was observed for the historic Milford and Bridgeport sites. These comparisons will be made in the EIS in more detail.

Q- How will the anchorage area noted on the Lobster Resources map affect the choice of the site?

A- It will not specifically discount the use of this site, but it must be considered in the consequences analysis.

Q- Have you overlaid the Lobster Resources map with the other layers from the Alternative Site Screening to see if the area of poor lobstering noted on the map coincides with an area that can be considered for dredged material disposal?

A- At the time of the meeting, this task had not been completed. Recent overlaying of the information developed from the meetings on the screening information indicated that the poor lobstering area is in an area that was eliminated during the Tier 1 screening, and thus does not change the findings from the screening.

Q- Conclusions of the Lobster report seem to run counter to other opinions. Was this a statistical sampling of information? Was information collected from the New London area?

A- This survey was not a statistical sampling. The lobstermen were asked to consider lobstering from a historical perspective. Information was only collected on the four alternative sites and the surrounding western and central LIS areas.

Q- Did you question a Long Island group of lobstermen? Discussions with Long Island lobstermen noted that the two closed sites near New York are good fishing grounds.

A- Long Island lobstermen were not interviewed. However, Connecticut lobstermen were asked about use of the areas by Long Island lobstermen.

Q- What does the bottom look like in the areas where the good lobstering is noted?

A- The lobstermen indicated these areas were generally in soft bottom areas (allows the lobster to burrow) or in areas with topographic relief or rapid changes in the topography.

Q- Did you interview people who lobster at CLIS?

A- We did not specifically interview lobstermen from CLIS, but the lobstermen interviewed were familiar with the status of lobstering at CLIS. During previous telephone interviews, lobstermen that work the CLIS site were interviewed with similar results.

Q- Can you include the other overlays in your reports showing the bathymetry and sediment type?

A- This will be considered for inclusion into the EIS. Please see the Alternative Site Screening Report located on the EPA Long Island Sound web site. It shows the various bottom sediment types throughout the Sound as found by the U.S. Geological Survey.

Q- Have bioaccumulation tests been run at the site? Don't they need to be performed?

A- Bioaccumulation tests are typically conducted on sediments proposed for aquatic disposal and compared to results from sediments collected from reference areas. These are laboratory -based tests where organisms are exposed to sediments and the body burden of contaminants is compared to the bulk sediment levels. In order to evaluate field levels of contaminants in tissues and sediments at the existing sites, the EIS study collected organisms and sediments from active and historical mounds as well as reference areas. These efforts produced a limited amount of data

for a large amount of effort because it is difficult to collect sufficient tissue from field sediments. The data that is available from these efforts and other regional data were considered sufficient to characterize background bioaccumulation levels in these organisms in the Sound and to represent, in general, the bioaccumulation resulting form long-term historic disposal activities at sites used prior to the current era, such as the alternative sites under consideration. This data will be evaluated for potential bioaccumulation using risk models routinely used by EPA to predict risk based on sediment contaminant and tissue levels.

Q- Is the location of Milford on the map correct? It appears to be closer to land then normally noted on maps.

A – According to the DAMOS GIS layer that we received, the site boundary noted is the location of the Milford site.

Status of the Long Island Sound Dredged Material Disposal Site Designation EIS

The second presentation by Dr. Hunt (Attachment 4) gave a general overview of the steps taken on the project to date and how the collected data and reports prepared by the project will be used in various parts of the EIS. This included a flow chart and explanation of the EIS process and a detailed explanation of the contents of each chapter in the EIS. Several questions were posed during and after the presentation.

Q- Is there an economic impact side of this outline? Does it include dredging vs. no dredging? Is it honed down to oil going up the rivers?

A- Yes, the economic impacts of dredging versus not dredging will be included in the EIS. The economic part compares the impacts on fishing, shipping and navigation, and dredging costs.

Q- Does the EIS take into effect impacts to several areas or one?

A- The EIS will include sections on the general impacts to LIS and the impacts associated with each alternative.

Q- Could we end up with more than 2 sites? Is the driver for that economic impact, need, etc? How is it judged? Is it just the agency that decides?

A- More than two sites could be recommended in the EIS. It could happen if most comparisons show that the alternatives have no distinguishing differences. The preferred alternative will be determined through a thorough review and comparison of each alternative in the Affected Environment and Environmental Consequences chapters of the EIS.

Q- What type of information is included in the no action alternative?

A- Economic and environmental information will be considered under the no action alternative. This will include evaluating the same types of information included in the other alternatives.

Q- Is a scientific evaluation of ecological impact to a harbor from not removing the dredged material included in the evaluation in the EIS? Harbors are nursery areas, sediments depositing in harbors normally contain the toxics and have effects on nursery groups. Getting them out of there would be beneficial.

A- The specific ecological impacts to a harbor are considered in general terms under the no action alternative, although the focus of the evaluation is on impact to the areas defined by the alternatives. Such factors as sediment deposition and sediment quality are considered at a general level.

Q- Will a beneficial use or upland alternative be considered in the EIS?

A- A general discussion of beneficial uses and upland alternatives will be included in the EIS and an appendix to the EIS will include a report on these alternatives. However, a specific beneficial use or upland alternative will not be considered as an alternative to the designation of a disposal site or the no action alternative. Information presented in the EIS can be considered in the evaluation of future dredging and disposal projects.

Q- Could the final decision be an open ocean alternative?

A- That is an option that is generally looked into when the zone of siting feasibility (ZSF) is established. The LIS ZSF does not include areas that are considered open ocean (*i.e.,* outer continental shelf)

Q- Eastern LIS has been left out, will there have to be a whole EIS for eastern LIS?

A- The same process will be conducted for the eastern LIS. It will be a supplement to this EIS.

Q- Are there enough funds to complete the process and what is the end?

A- The public draft will be available in summer 2003 with the final version issued in December. At this time the Corps is under a Continuing Resolution Authority. We are working on incremental elements based on the funding allocations we've received under this Authority.

Q- Is there a schedule for the eastern sound?

A- At this time there is not a schedule for the eastern sound except that it will be started after this EIS is completed.

Q- If no new sites are designated, when is the closing date for those projects with more than 25,000 cubic yards?(It was also noted that most individual marinas would be under 25,000 cubic yards.)

A- CLIS will close to projects over 25,000 cubic yards on February 18, 2004. The other three sites presently in LIS each have a second 5-year period that can be initiated. Projects under 25,000 cubic yards can propose to use any of these sites and can continue using CLIS after it closes. The Corps can use its existing authority to select sites under the MPRSA until sites are designated.

Q- Will Site Monitoring Management Plans (SMMPs) be included in the Public Draft EIS?

A- SMMPs will be prepared and distributed to the public within a couple of weeks of the Public Draft EIS distribution.

Mr. Dan Natchez asked that an e-mail sent to Ms. Ann Rodney be entered into the record for this meeting. The following is the e-mail sent to Ms. Rodney and the answers to the questions asked in the e-mail.

```
From:    DSNAINC@aol.com
To:      Ann Rodney/R1/USEPA/US@EPA          10/14/02 11:28 AM
cc:      Mfdbadger@aol.com
Subject: EIS - LIS

Ann:

At your request and following the CAC's telephone conference call last week
the following issues were discussed and the committee asked that they be
taken back to the EPA/ACE "team" for discussion comment and inclusion in the
EIS in a meaningful form.
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1) At the last working group meeting, the first slides showed all of LIS Sound and the overlay criteria that would indicate areas within the western end of LIS sound meeting the overall expressed EPA/ACE EIS criteria for dredged material relocation sites. All slide thereafter focused on the LI Sound are excluding the western and eastern ends. The stated reason in answer to a question was that the areas in the western end were "not large enough" to be considered. And therefore the only areas being seriously considered were that of CLIS, WLIS, & MILFORD.

The question is ARE THERE ANY relatively deep water areas within the western area of LIS sound that meet the same overlay criteria as other areas being considered and if so why they(it) are(is) not being considered? Arbitrarily dismissing the western end of LIS form consideration due to size is an ADMINISTRATIVE decision, not a scientifically analyzed decision.

A-The deep areas in Western LIS were considered in the site screening. It was determined that while some small areas exist, they have not received dredged material in the past, are small relative to the site areas for the Bridgeport and Milford alternatives, and would likely have limited capacity. Therefore these areas were not further considered in the site screening.

2) Almost every other area of the country are either using are seriously considering small nearshore confinement approaches including containment islands, bullheaded intertidal areas etc. for the placement of relocated dredged materials form the nearby harbor areas. Some of these areas are being used for marsh creation while other are being used for the expansion of various other activities from parks to marine dependent activities. The CAC Sediment Focus Group was advised that local (governmental) sponsors are needed including potential state policy initiatives. Such nearshore alternative approaches for relocation of dredged materials should be addressed in the EIS alternative section in a meaningful way in order for such approaches to be considered in the future. In the past 2 years there have been projects that have been proposed with local governmental sponsors only to be shot down at the Federal level before meaningful discussion and planning approaches could be undertaken. Addressing avenues for such approaches to be considered in the EIS alternative section could be most meaningful in opening the doors for future consideration.

A- The purpose of the EIS is to evaluate and develop preferred alternative(s) for an open water site(s). The types of nearshore alternatives identified in the email will be considered in the EIS in general, but not evaluated in detail. Evaluation of dredged material disposal options such as CAD cells, confined disposal facilities, upland disposal is required in each dredging permit application. The process and requirements will be described in the EIS.

Dan

Ms. Ann Rodney closed the meeting by stating that each person should continue to check the web site for the new reports every two weeks. The next working group meeting will possibly be held in March or April. If any additional questions or concerns are noted, please send all requests to Ms. Ann Rodney at EPA (Rodney.Ann@epa.gov).

ATTACHMENT 1

Working Group Meeting Participants

Attachment 1

Long Island Sound Dredged Material Disposal Site Designation EIS
Working Group Meeting Participants

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ATTACHMENT 2

Agenda and
Fact Sheets Passed Out at the Meeting

Long Island Sound Dredged Material Disposal Site Designation Environmental Impact Statement

Working Group Meeting
November 20, 2002

Holiday Inn
Stamford, CT

Agenda

10:00 – Welcome
10:10 – Overview of Recent Working Group Activities
Followed by a question and answer session on the July 24 Working Group Meeting Summary
10:30 – Presentation *Results of the Field Work at Alternative Sites*
Followed by a question and answer session on the presentation

11:30 – Lunch

1:00 – Presentation *Status of the Long Island Sound Dredged Material Designation EIS and Next Steps*
Followed by a question and answer session on the presentation

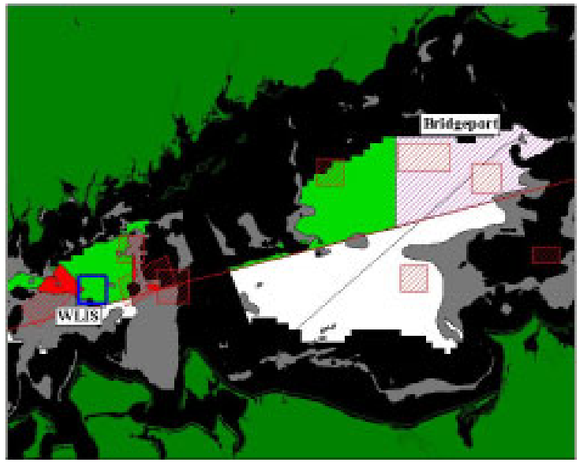

Figure 3. In the Tier 2 screening process, approved shellfishing areas were removed from siting consideration (depicted in bright green above). The purple crosshatched area and the red areas depict shellfishing-restricted and shellfishing-prohibited regions, respectively, and therefore were open for siting consideration. Hence, the selection of the historic Bridgeport site as an alternative to the WLIS disposal site.

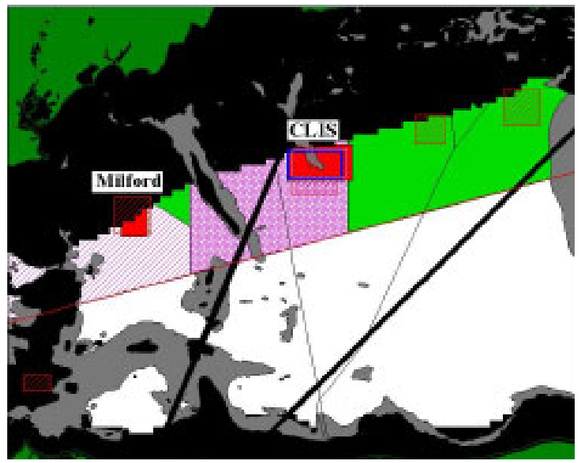

Figure 4. The Milford site was selected as an alternative to the CLIS disposal site. The purple spotted area depicts an area where shellfishing is conditionally approved. Although portions of the selected Milford site are in water shallower than 18 meters, for the purposes of this evaluation, the Milford boundaries were modified in a southeasterly direction to exclude the 18-meter exclusion area.

For more information, please contact Ann Rodney, US EPA, 1 Congress Street, Suite 1100, CWQ, Boston, MA 02114-2023, 617-918-1538 (tel), 617-918-1505 (fax), rodney.ann@epa.gov (email), or visit our Web site at www.epa.gov/region01/eco/lisdreg/.

Fact Sheet # - October 2002

US ARMY CORPS
OF ENGINEERS
New England District

LONG ISLAND SOUND
DREDGED MATERIAL DISPOSAL SITE DESIGNATION EIS
ALTERNATIVE SITE SCREENING

BACKGROUND

The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) are preparing an Environmental Impact Statement (EIS) that will consider the potential designation of one or more dredged material disposal site(s) in Long Island Sound (LIS), Connecticut and New York. This EIS will be specific to the western and central regions of LIS, although previous data collection included the entire Sound. The eastern regions of LIS will be evaluated at a later date. This proposed action is being conducted consistent with Section 102 (c) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) and 40 CFR 230.80 of the regulations of the EPA under Section 404 of the Clean Water Act (CWA). The EIS will be prepared in accordance with the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500 et seq.).

There are four dredged material disposal sites currently in use in Long Island Sound: Western Long Island Sound Disposal Site (WLIS), Central Long Island Sound Disposal Site (CLIS), Cornfield Shoals Disposal Site (CSDS), and New London Disposal Site (NLDS). In March 2002, the Corps and EPA made a determination to narrow the Zone of Siting Feasibility (ZSF), or the area in which existing dredged material disposal sites may be located, to initially consider the potential designation of one or more sites in the western and central regions of Long Island Sound, while deferring review of the eastern region to a later date. This narrowed ZSF includes the WLIS and CLIS sites (see Figure 1).

This Fact Sheet is one of a series designed to inform and update the public on the dredged material disposal and site designation process. Other public involvement is encouraged in the form of workshops, meetings, and group discussions. This particular Fact Sheet summarizes the alternative site screening process and the results in the selection of two alternative sites. During the alternative site screening process described here, the Corps, EPA, and federal and state agencies proposed two historic dredged material disposal sites (Bridgeport and Milford) for evaluation in the EIS as potential alternatives to CLIS and WLIS, in addition to no action alternatives for each disposal site.

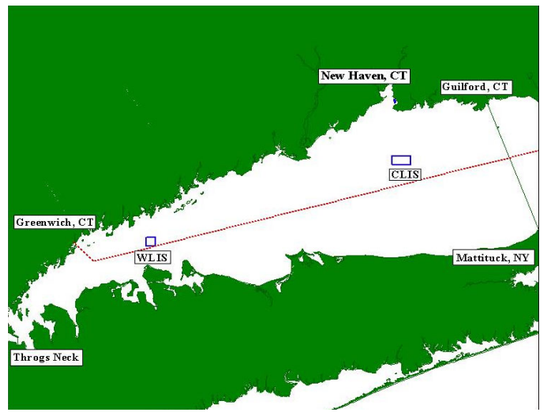

Figure 1. The ZSF for western and central Long Island Sound includes all of the Sound west of Guilford CT/ Mattituck NY to Throgs Neck NY. The New York/Connecticut state line runs longitudinally through the center of LIS. WLIS and CLIS locations are depicted.

Site Screening Process

The alternative sites were selected at an interagency meeting held May 16, 2002, that included representatives from EPA, the Corps, National Marine Fisheries Service, Connecticut Department of Environmental Protection, New York State Department of Environmental Conservation, and New York Department of State. Prior to the meeting, the Corps and EPA prepared a summary of evaluation factors for site screening based on guidance and criteria in the MPRSA. Criteria used in the evaluation of these sites included the following:

- Sites must be selected to minimize any interference of disposal activities with other activities in the marine environment (particularly fishing and navigation);
- Any perturbations in water quality or other conditions due to disposal activities must be expected to be temporary and to be reduced to normal levels before reaching any shoreline or geographically limited fishery;
- The sizes of the sites must be limited in order to control adverse impacts and to facilitate effective monitoring; and
- The EPA, if feasible, must designate sites beyond the edge of the continental shelf.

Other factors that must be considered when evaluating alternative sites are:

- Geographical position, water depth, bottom topography, distance from coastline and beaches;
- Location in relation to spawning, feeding, and breeding areas of marine life;
- Transport characteristics of the area, including prevailing current direction and velocity; and
- Potentiality for development of harmful nuisance species in the disposal site.

In order to facilitate the screening of candidate areas at the interagency meeting, the Corps and EPA organized the process into Tier 1 and Tier 2 screening. Tier 1 identified areas within the ZSF *not* acceptable for locating sites. Then, within the areas deemed acceptable, Tier 2 identified specific alternative disposal sites for further evaluation. A Geographic Information System (GIS) was used to create maps showing unacceptable Tier 1 areas and feasible Tier 2 areas.

The results of this site screening process were presented at the July 24, 2002, Working Group meeting. Helpful input was provided by attendees of this meeting and was later considered when improving the screening criteria. The minutes of this meeting are available on the EPA Web site as shown below.

Tier 1 Screening Results

The federal and state agencies considered many factors when determining areas within the ZSF not acceptable for locating a site (Figure 2). These screening decisions included:

- Both New York and Connecticut state waters were considered equally;
- Waters shallower than 18 meters were eliminated because waves and storms are potentially strong enough to stir up bottom sediments at these depths;
- Sites would not be located near beaches, conservation areas, artificial reefs, shellfishery areas and pipelines or cables;
- Hard-bottom and gravel areas would not be considered for sites as they are important habitats for marine organisms; and
- Areas with high dispersion potential would not be considered due to the possibility of disposed material eroding and moving outside the sites' boundaries.

Tier 2 Screening Results

The Tier 2 screening process identified specific areas for the possible location of alternative sites. Also considered in this step was the no action alternative as required by NEPA. The following factors, as

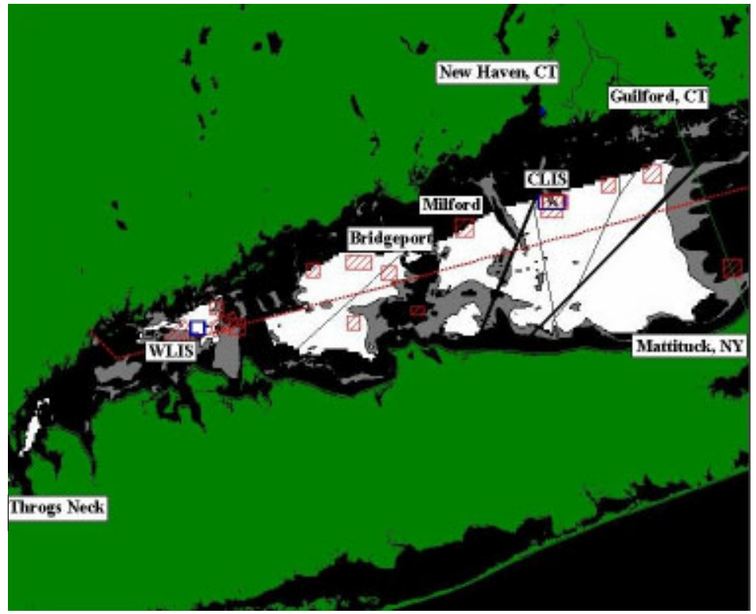

Figure 2. Black areas have been removed from siting consideration according to the Tier 1 criteria. Red crosshatched boxes are historic disposal sites. White and grey areas are regions of the ZSF to be considered in the Tier 2 screening process.

outlined in the MPRSA criteria, were considered by the federal and state agencies.

- Preference will be given to historic disposal locations for alternative sites, to minimize the effects on other more pristine/less impaired regions of LIS;
- If possible, the continuity of benthic habitat should be preserved by disposing a material on its equivalent (i.e., disposal of silt and clay on silt and clay); and
- Alternative sites will not be located in areas that have been approved for shellfish production (colored in red in Figures 3 and 4).

Following the Tier 2 considerations, the federal and state agencies concluded that (1) two alternative sites would be selected for further analysis, one as an alternative to WLIS and one as an alternative to CLIS; and (2) these alternative sites would be selected from historic disposal sites. Based on size and proximity to WLIS and CLIS, and the MPRSA site selection criteria, the Bridgeport and Milford sites were selected (see Figures 3 and 4).

The federal and state agencies also concluded that the following additional information would be required at these sites to be evaluated:

- Benthic infauna and sediment characteristics
- Appropriate studies will be conducted in order to assure protection of important historic and archaeological resources; and
- A fish habitat assessment and lobster fishery assessment will be conducted to understand the impact to these resources.

characteristic of sediment not found at the disposal sites (T4/T3 and M4), and one was used as a reference station for comparative purposes (M3). Site T4/T3 was characterized by a sedimentary transition from mud to sand as depth increased from 60 to 90 feet. Site M4 was characterized by mud habitat below 90 feet in depth. The NLDS site was sampled by a commercial fisherman under contract to CT DEP. Figure 3 illustrates the locations of the finfish sampling stations.

The CT DEP collected between one and three samples at each station. Between three and ten individuals from each of the six target species were collected for a total of 650 specimens. In order to obtain sufficient biomass for tissue analysis, a weight of 1,500 grams was determined as the minimum needed of each finfish species at each sample site. This weight could be one individual fish or several. After this target weight was reached, any surplus fish were recorded, measured, and released to the ocean.

Results

- The analyses of the tissue samples are ongoing.
- The analytical results, once assessed and reported, will be available at the next public working group meeting and on the EPA Web site (address is below).

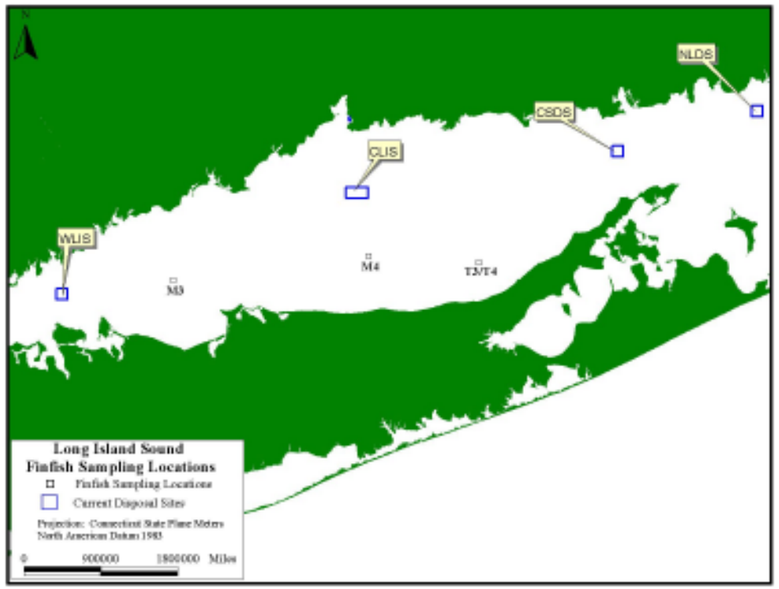

Figure 3. The locations of the finfish sampling stations.

For more information, please contact Ann Rodney, US EPA, 1 Congress Street, Suite 1100, CWQ, Boston, MA 02114-2023, 617-918-1538 (tel), 617-918-1505 (fax), rodney.ann@epa.gov (email), or visit our Web site at www.epa.gov/region01/eco/lisdreg/.

Fact Sheet # - October 2002

US ARMY CORPS
OF ENGINEERS
New England District

Long Island Sound
Dredged Material Disposal Site Designation EIS
Collection of Marine Biota for Contaminant Analysis

Background

The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) are preparing an Environmental Impact Statement (EIS) that will consider the potential designation of one or more dredged material disposal site(s) in Long Island Sound (LIS), Connecticut and New York. This EIS will be specific to the western and central regions of LIS, although previous data collection included the entire Sound. The eastern regions of LIS will be evaluated at a later date. This proposed action is being conducted consistent with Section 102 (c) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) and 40 CFR 230.80 of the regulations of the EPA under Section 404 of the Clean Water Act (CWA). The EIS will be prepared in accordance with the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500 et seq.).

There are four dredged material disposal sites currently in use in Long Island Sound: Western Long Island Sound Disposal Site (WLIS), Central Long Island Sound Disposal Site (CLIS), Cornfield Shoals Disposal Site (CSDS), and New London Disposal Site (NLDS). See Figure 1 for the locations of the four disposal sites in LIS. In March 2002, the Corps and EPA made a determination to narrow the Zone of Siting Feasibility (ZSF), or the area in which existing dredged material disposal sites may be located, to initially consider the potential designation of one or more sites in the western and central regions of Long Island Sound, while deferring review of the eastern region to a later date. This narrowed ZSF includes the WLIS and CLIS sites.

This Fact Sheet is one of a series designed to inform and update the public on the dredged material disposal and site designation process. Other public involvement is encouraged in the form of workshops, meetings, and group discussions. This particular Fact Sheet describes some of the several field efforts that have been conducted in order to prepare this EIS and evaluate the condition of the proposed disposal sites. Other field efforts are described in previously published Fact Sheets. As described here, representative samples of benthic organisms (i.e., clams, worms), lobsters, and finfish have been collected for tissue analysis. These tissues were analyzed to determine the level of contaminants and for evidence of bioaccumulation[1]. All

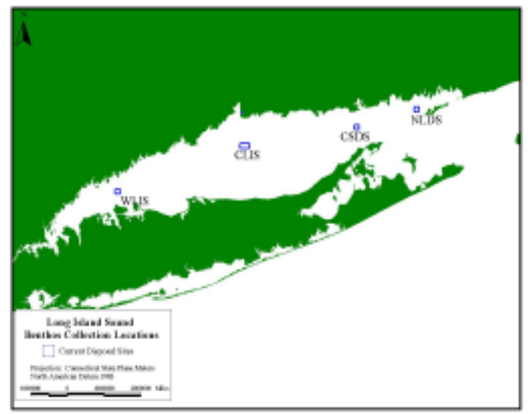

Figure 1. The locations of the four currently used disposal sites in Long Island Sound.

[1] Bioaccumulation describes the concentration of a contaminant over time in the bodily tissues of a living organism. The contaminant concentration in a tissue sample is related to the amount of contaminants in the water or sediment in which the organism lives and the length of time the organism has lived there.

of the tissue samples were analyzed for polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), pesticides, dioxin, and metals, among other contaminants (see Table 1). The particular analytes collected were chosen due to their bioavailability or because they are known carcinogens. These analyses will be evaluated during the EIS development and may be helpful in the management of the proposed designated disposal sites.

Table 1. Tissue Sample Analytes

Pesticides
- DDT family (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, 2,4-DDD, 2,4-DDD, 2,4,-DDT)
- Aldrin
- BHC (alpha, beta, delta, and gamma)
- Chlordane (alpha and gamma)
- Dieldrin
- Endosulfan I and II
- Endosulfan sulfate
- Endrin
- Heptachlor
- Heptachlorepoxide
- Methoxychlor
- Toxaphene

Polychlorinated Biphenyls
- Twenty-two individual congeners, including 18 NOAA National Status and Trends congeners
- Twelve World Health Organization Dioxin-like congeners

Dioxins and Furans
- Seventeen 2,3,7,8-substituted PCDD/PCDF congeners

Polynuclear Aromatic Hydrocarbons (PAHs) and Other
- Twenty-three PAHs (including the 16 EPA Priority Pollutants)
- Bis(2-ethylhexyl)phthalate
- Tributyltin

Metals
- Arsenic
- Beryllium
- Cadmium
- Chromium
- Copper
- Lead
- Mercury
- Nickel
- Selenium
- Silver
- Zinc

Benthic Tissue Survey

Benthic organisms living at disposal sites may exhibit signs of toxic contamination. Since all living organisms bioaccumulate contaminants, tissue samples were collected and evaluated to determine whether these contaminants have entered the food chain and how toxic they may be to organisms. The purpose of this survey was to collect sufficient biomass of the clam species (*Pitar morrhuana*) and the worm species (*Nephtys incisa*) for contaminant analysis, pursuant to guidance documents. These two species were chosen because they are common to the Sound, have a wide distribution, and are representative of LIS fauna.

Samples of *P. morrhuana* and *N. incisa* were collected from CLIS and NLDS from July 7 through 13 and August 25 through September 1, 2000. Since adequate biomass samples had already been collected from WLIS and CSDS, they were not included in this particular survey. The samples were obtained using a grab sampler deployed from the side of the F/V *Isabel S*, a 95-foot offshore dragger. Samples were collected from three stations in NLDS and seven stations in CLIS, with the objective being to collect three tissue samples from each station. Both sites contained sampling stations representing no-impact sites, historically dredged material disposal sites, and still active dredged material disposal sites and farfield sites. For a description of these sampling schemes, please refer to the Finfish Survey Summary Report.

Lobster Survey

In order to evaluate the bioaccumulation of contaminants in other organisms found in the proposed disposal sites, tissue samples were collected from lobsters both inside and outside the four existing disposal sites between July 26 and September 2, 2000. Unlike benthic organisms, lobsters are mobile and may move into or out of the disposal areas. Consequently, any accumulated contaminants detected in lobster tissue samples cannot be traced to the disposal site for the entire duration of contamination. Therefore, this information will be helpful in determining the impacts that bioaccumulation has on the marine food chain and human consumers.

Figure 2 depicts the locations of the lobster sampling stations. The lobster tissue samples were collected from nine stations in LIS: one at each of the four existing disposal sites (WLIS, CLIS, CSDS, and NLDS), four reference stations for comparative purposes (marked REF 1-4 in Figure 2), and one offshore reference station at Hudson Canyon (marked HC REF 5 in Figure 2). The lobster sampling locations at the four currently used disposal sites were named Mound "I", NHAV93 buoy, Buoy B 92, and Seawolf after nearby landmarks and are shown in Figure 2. At each of the nine stations, an effort was made to collect five samples of five lobsters each, for a total of 225 samples. Due to lobster fishing restrictions in LIS, the proposed sampling amounts were not obtained. However, at least 15 lobsters were collected at each station. All samples were collected using standard lobster pots by local commercial lobster fishers.

Finfish Survey

In June and September 2000, the LIS finfish survey was coordinated with the Connecticut Department of Environmental Protection's Long Island Sound Trawl Survey (LISTS), an annual scientific assessment of the LIS finfish population.

There were six finfish target species chosen as representative of the general LIS finfish community: winter flounder (*Pseudopleuronectes americanus*), scup (*Stenotomus chrysops*), bluefish (*Pomatomus saltatrix*), striped bass (*Morone saxatilis*), windowpane flounder (*Scophthalmus aquosus*), and striped searobin (*Prionotus evolans*).

Each finfish sample was collected by towing a trawl for 30 minutes at 3.5 knots of speed along pre-determined CT DEP station lines. Each trawl length was approximately two miles long. The finfish samples were collected from seven trawl lines; three of the stations were the existing dredged material disposal sites (WLIS, CLIS, and CSDS), two were stations

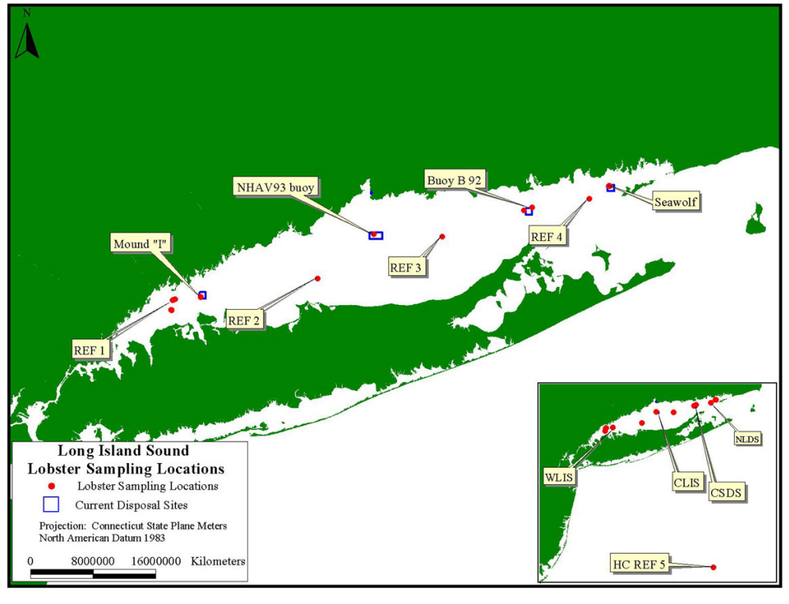

Figure 2. The locations of the lobster sampling stations.

Archaeological/ Geomorphological Surveys

An archaeological/geomorphological survey of the proposed alternative disposal sites was conducted to determine the presence of any significant underwater historic or archaeological resources. Survey transects were oriented north to south at 50-m intervals.

A cesium marine magnetometer was deployed in order to measure any magnetic field strength along the site transects. The magnetometer was towed approximately 25 feet above the seafloor, which will allow detection of large iron or steel objects. Readings from the magnetometer will be evaluated by the marine archaeologist and geophysicist.

Side scan sonar was also used to help determine the possible locations of historic or archaeological resources that might have gone undetected by the magnetometer. The sonar was towed within 25 to 30 feet above the seafloor in order to provide high-resolution sonar images. On the vessel, the marine archaeologist and geophysicist monitored and reviewed the recorded images to identify locations of historic or archaeological significance.

Finally, sub-bottom profiling was utilized in order to better characterize the upper layers of sediment. Using a 3.5-kHz pinger system, readings from the seafloor profile will provide data on the thickness of sediment layers (see Figure 4 for an example of a sub-bottom profiling image). The marine archaeologist will evaluate these readings to determine if historic or archaeological resources are buried in the sediment and at what depth they are buried. In addition, the data will be analyzed to produce maps of seabed morphology and sub-bottom stratigraphy.

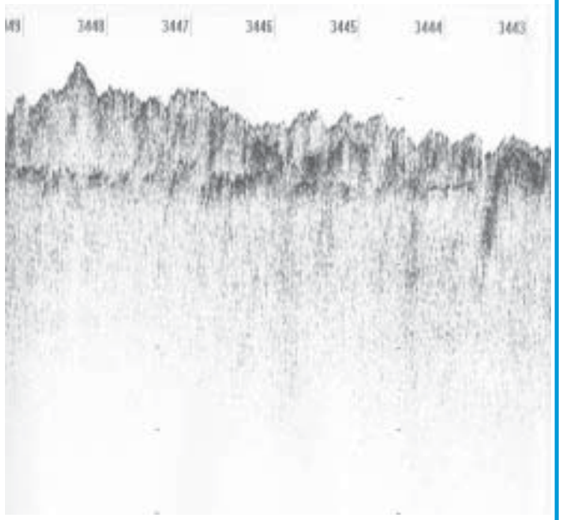

Figure 4. An example of a sub-bottom profiling image from the Milford site. The vertical scale is exaggerated.

Lobster Resource Surveys

The lobster resources and lobster fishery activity were characterized at the two alternative sites, as well as CLIS and WLIS. The lobster populations and fishing patterns were identified through discussions with lobster fishers at meetings located in the Milford, Bridgeport, and Stamford areas of Connecticut. The information collected in these meetings will be evaluated and appropriate data mapped using a Geographic Information System (GIS).

Results

- The analyses of the sediment samples are ongoing.
- The analytical results, once assessed and reported, will be available at the next public working group meeting and on the EPA Web site (address is below).

For more information, please contact Ann Rodney, US EPA, 1 Congress Street, Suite 1100, CWQ, Boston, MA 02114-2023, 617-918-1538 (tel), 617-918-1505 (fax), rodney.ann@epa.gov (email), or visit our Web site at www.epa.gov/region01/eco/lisdreg/.

Fact Sheet # - October 2002

US ARMY CORPS OF ENGINEERS
New England District

Long Island Sound Dredged Material Disposal Site Designation EIS

Field Program for Alternative Disposal Sites

Background

The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) are preparing an Environmental Impact Statement (EIS) that will consider the potential designation of one or more dredged material disposal site(s) in Long Island Sound (LIS), Connecticut and New York. This EIS will be specific to the western and central regions of LIS, although previous data collection included the entire Sound. The eastern regions of LIS will be evaluated at a later date. This proposed action is being conducted consistent with Section 102 (c) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) and 40 CFR 230.80 of the regulations of the EPA under Section 404 of the Clean Water Act (CWA). The EIS will be prepared in accordance with the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500 et seq.).

There are four dredged material disposal sites currently in use in Long Island Sound: Western Long Island Sound Disposal Site (WLIS), Central Long Island Sound Disposal Site (CLIS), Cornfield Shoals Disposal Site (CSDS), and New London Disposal Site (NLDS). In March 2002, the Corps and EPA made a determination to narrow the Zone of Siting Feasibility (ZSF), or the area in which existing dredged material disposal sites may be located, to initially consider the potential designation of one or more sites in the western and central regions of Long Island Sound, while deferring review of the eastern region to a later date. This narrowed ZSF includes the WLIS and CLIS sites.

This Fact Sheet is one of a series designed to inform and update the public on the dredged material disposal and site designation process. Other public involvement is encouraged in the form of workshops, meetings, and group discussions. In this particular Fact Sheet, the efforts to evaluate alternative disposal sites in LIS are discussed. During the alternative site screening process, the Corps, EPA, and federal and state agencies proposed two historic dredged material disposal sites (Bridgeport and Milford) for evaluation in the EIS as potential alternatives to CLIS and WLIS, in addition to no action alternatives for each disposal site (the locations of these two sites are shown in Figure 1). In order

Figure 1. The locations of the Bridgeport and Milford historic disposal sites in relation to the Connecticut and New York state borders.

to evaluate the conditions consistent with previous studies conducted at the existing sites, the Corps and EPA developed a sampling and analysis program to obtain further information on these historic disposal sites. This plan includes sediment sampling, sediment profile imaging (SPI), archaeological/geomorphological surveys, and lobster resource surveys to obtain information on benthic habitat, sediment characteristics, the presence of significant historic and archaeological resources, and site geomorphology. The surveys were conducted by Battelle and Ocean Surveys, Inc.

Sediment Sampling Surveys

Three replicate sediment samples were taken from each of three target stations (nine total) at the sites. In addition, one sample with three replicates was taken from a predetermined reference station at each site. These samples will be analyzed to understand the community structure of animals that live in the sediment (benthic infauna), ascertain the distribution of certain contaminants, and determine the toxicity of the sediment.

Survey/Sampling Methodologies

Benthic Infauna Sampling

Sediment samples for benthic community analysis were collected using a 0.04-m^2 Ted Young grab sampler that was deployed into the water from the research vessel (see Figure 2). The physical features (i.e., depth of penetration, sediment color, texture, and odor, and surface features and macro-fauna) of the sediment were initially described. The sediment samples, and the resident infauna, were then sieved through a 0.5-mm sieve. The contents of the sieve were preserved before being shipped to an analytical laboratory for species identification. The benthic infauna themselves will be identified to the lowest possible taxonomic category; and benthic community parameters such as species density by sample, the dominant infaunal species, evenness of distribution, and community assemblage patterns will be developed. The benthic community parameters will allow direct comparison to data from the existing dredged material disposal sites in Long Island Sound collected previously as part of this EIS.

Chemistry Sampling

Sediment samples for chemistry analysis were collected in triplicate at four stations at each site (three samples in the site and one sample at the reference site for a grand total of 30 samples) using a 0.1-m^2 Ted Young grab sampler. The samples were preserved in glass bottles and carefully stored for shipment to the analytical laboratory for analysis. Laboratory analysis will include such contaminants as polycyclic aromatic hydrocarbons (PAHs), pesticides, metals, polychlorinated biphenyls (PCBs), and dioxins. In addition, physical characteristics of the sample (i.e., grain size, water content/percent solids, specific gravity, and total organic carbon) will also be recorded.

Additional samples were collected for the analysis of zinc, chromium, and lead to provide additional data for these metals. The chemical and physical parameters are the same as those measured at CLIS and WLIS and will allow for comparison to be made among the sites. The particular analytes collected were chosen due to their bioavailability or because they are known carcinogens.

Toxicity Sampling

Simultaneously with the sediment sampled for chemical analysis, samples were collected for toxicity testing. Using a 0.1-m^2 Ted Young grab sampler, three replicate samples were taken within the Bridgeport and Milford sites. In addition, three replicates were collected at one reference station for each of the sites. This resulted in a total of 12 samples at each site, or 24 total samples.

The toxicity testing will include the use of a 10-day solid phase acute exposure amphipod bioassay using the amphipod *Ampelisca abdita*, an organism selected pursuant to guidance documents. This amphipod is a representative species for marine benthic organisms found in Long Island Sound. *A. abdita* will be exposed for 10 days to the sediment samples collected from the sites, and the mean percent survival will be recorded. This will determine whether or not the contaminants in these samples pose a toxic threat to benthic organisms and provide a basis for comparison to the other sites.

Figure 2. Researchers collecting sediments for physical, chemical, and biological testing using the 0.04-m^2 Ted Young grab sampler.

Sediment Profile Imaging (SPI)

SPI is a survey method to evaluate the environmental status of the bottom habitat using a remote camera. SPI has been conducted for the past 30 years for monitoring of the existing disposal sites. The SPI system takes high-resolution photographs of the top 25 cm of the seabed, making it very useful for describing the benthic habitat conditions at the alternative sites, as well as providing data for monitoring the changes and recovery of these sites, should they be used at later dates.

At each of the alternative sites, 29 stations were visited, each with three replicates. In addition, three replicate photograph samples were taken at each of three stations in the two reference sites. This resulted in a total of 96 photographs. The reference sites were similar in depth to the alternative sites.

Survey Equipment

The sediment profile camera system consisted of a 35-mm camera enclosed in a pressure-resistant housing, a 45° prism, and a mirror that reflects an image of the sediment through the camera lens (see Figure 3). A strobe light was also included in order to illuminate the sediment at depth. The SPI system penetrated the sediment-water interface and photographed the upper 25 cm of seafloor. After each photograph, the SPI camera was raised from the sediment and redeployed back into the sediment. Each redeployment was considered a "sample."

The photographic images will be used to evaluate the benthic community structure and to assess the existing habitat. Specifically, the photographs will be analyzed for sediment grain size, camera prism penetration depth, small-scale surface boundary roughness, sediment aeration, infaunal successional stage, and Organism-Sediment Index (OSI), which reflects the overall benthic habitat quality. SPI surveys have already been performed at WLIS and CLIS. The data from this survey will allow a direct comparison of the bottom habitat conditions at all the sites.

Figure 3. A sediment profile camera system.

Fact Sheet #6A - October 2002

US ARMY CORPS OF ENGINEERS
New England District

Long Island Sound
Dredged Material Disposal Site Designation EIS

Results of Field Program at Alternative Disposal Sites

Background

The U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) are preparing an Environmental Impact Statement (EIS) that will consider the potential designation of one or more dredged material disposal site(s) in Long Island Sound (LIS), Connecticut and New York. This EIS will be specific to the western and central regions of LIS, although previous data collection included the entire Sound. The eastern regions of LIS will be evaluated at a later date. This proposed action is being conducted consistent with Section 102 (c) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) and 40 CFR 230.80 of the regulations of the EPA under Section 404 of the Clean Water Act (CWA). The EIS will be prepared in accordance with the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500 et. seq.).

This Fact Sheet is one of a series designed to inform and update the public on the dredged material disposal and site designation process. In particular this Fact Sheet reports available results of the sampling effort that took place in July and August 2002 at the historic Bridgeport and Milford sites. For more information on this sampling effort, see Fact Sheet #6 Field Program for Alternative Disposal Sites.

Sampling Surveys

To obtain further information on these historic disposal sites, the Corps and EPA developed a sampling and analysis program consistent with previous studies conducted at the existing dredged material sites.

During the summer of 2002, sediment samples were collected from two historic dredged material disposal sites of Bridgeport and Milford. These samples were analyzed to understand the community structure of animals that live in the sediment (benthic infauna), to ascertain the distribution of certain contaminants, and to determine the toxicity of the sediment. In addition, the health and structure of the sediments at each site was assessed using a Sediment Profile Imager which uses a 35-mm camera to take pictures of sediment layers at each site.

Survey Results

Benthic Infauna Sampling

Sediment samples for benthic community analysis were successfully collected, and the associated animals sorted and identified to the lowest possible taxonomic category for each sampling location chosen at the Bridgeport and Milford sites. At this time these data are still being evaluated. Upon completion of the data interpretation, benthic community parameters such as species density by sample, dominant infaunal species, evenness of distribution, and community patterns will be assessed. These benthic community parameters will allow direct comparison to data from the existing dredged material disposal sites in Long Island Sound collected previously as part of this EIS. The interpretive data report will be posted on the EPA Web site (see back page).

Chemistry Sampling

Sediment samples for chemistry analysis were successfully collected, preserved, and analyzed for each sampling location chosen at the Bridgeport and Milford sites. The analytical data from these samples is still being assessed. Once completed the data will be posted on the EPA Web site (see back page).

Toxicity Sampling

Toxicity testing is performed to determine whether sediments from a specific location are detrimental to the health of organisms in the surrounding area. An acute toxicity test was conducted following guidance provided by the *Evaluation of Dredged Material Proposed for Ocean Disposal—Testing Manual* (EPA/USACE 1991) and *Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters* (EPA/USACE 1989), which provides regional guidance on determining whether sediments are acceptable for open ocean disposal. Sediment from each site, reference location, and control sample was placed in containers for 10-days, along with several test animals of the species *Ampelisca abdita*. Determination of the toxicity of the sediment was then evaluated based on the average mortality of organisms in each of the containers.

Average mortality was very low at all of the stations evaluated, with more than 80% of all *A. abdita* surviving at all stations sampled. In addition, survival associated with sediments for the historic Bridgeport and Milford sites was similar to that observed at reference stations. Based on these results, sediments from these sites are presumed to not be acutely toxic to benthic organisms. The interpretive report of these analyses will be posted on the EPA Web site (see address below).

Sediment Profiling Imaging (SPI)

SPI involves the use of a remote camera to evaluate the environmental status of the bottom habitat. Using the SPI camera it appears that both the historic Bridgeport and Milford sites are predominantly comprised of fine-sand-silt-clay. Sediments at both sites were also uniform and showed no signs of sediment layering. Stations sampled at both sites also appeared to support a diverse benthic community, typical of that expected for Long Island Sound. These indicate that the sediments have probably not been disturbed a great deal in the recent past and that the benthic communities located at both the sites are healthy.

Archaeological / Geomorphological Surveys

An archaeological/geomorphological survey of the proposed alternative disposal sites was conducted to identify possible underwater historic or archaeological resources. Survey data were acquired along a series of parallel tracklines spaced 50-meters apart and centered on both the Bridgeport and Milford sites. Data were collected simultaneously on the depth of the site, the contour of the bottom, and whether any metal objects were present. These data are still being assessed and will be included in a report that will be posted on the EPA Web site (address below).

Lobster Resource Surveys

Three meetings were held in Connecticut to ascertain the use by lobsters of these two historic sites, along with the present Western Long Island Sound (WLIS) and Central Long Island Sound (CLIS) dredged material disposal sites. Lobstermen and fishermen were interviewed regarding lobster, shellfish, and fish populations in the areas surrounding the sites. Several general conclusions were drawn from these conversations.

- Dredged material disposal within LIS does not appear to have a negative impact on lobstering.
- Disposal activities within LIS could be considered beneficial to the lobster community because catch information suggests the lobsters may favor the dredged material for its soft muddy content that sustains burrows and possible food sources.

A summary of the meetings has been posted on the EPA Web site (see address below).

For more information, please contact Ann Rodney, US EPA, 1 Congress Street, Suite 1100, CWQ, Boston, MA 02114-2023, 617-918-1538 (tel), 617-918-1505 (fax), rodney.ann@epa.gov (email), or visit our Web site at www.epa.gov/region01/eco/lisdreg/.

ATTACHMENT 3

Results from the Alternative Site Field Sampling Program Presentation

Long Island Sound Dredged Material Disposal Site Designation Environmental Impact Statement

Results from the Alternative Site Field Sampling Program

Battelle

1/13/2003 1

Alternative Site Sampling

- In July/August 2002, a sampling effort to collect data at two sites chosen as alternatives for the EIS. Those sites were:
  - Bridgeport Historic Dredged Material Disposal Site
  - An area near the Milford Historic Dredged Material Disposal Site
- Objective

  Determine the present condition and provide data to support alternatives analysis of these historic sites as open water dredged material disposal sites.

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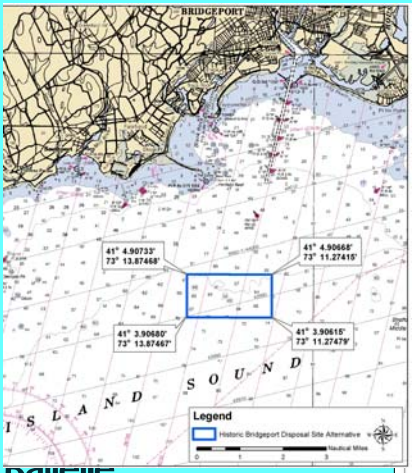
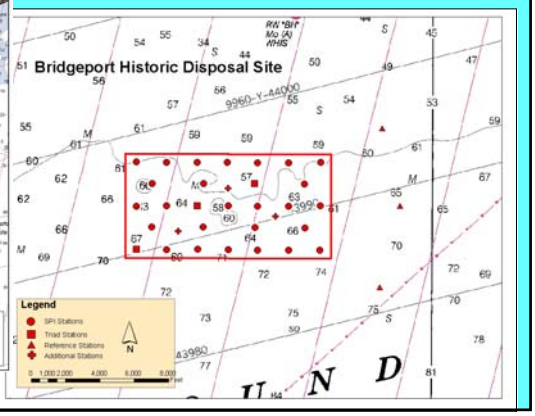
Bridgeport Historic Disposal Site

Site Location



Sampling Station Distribution



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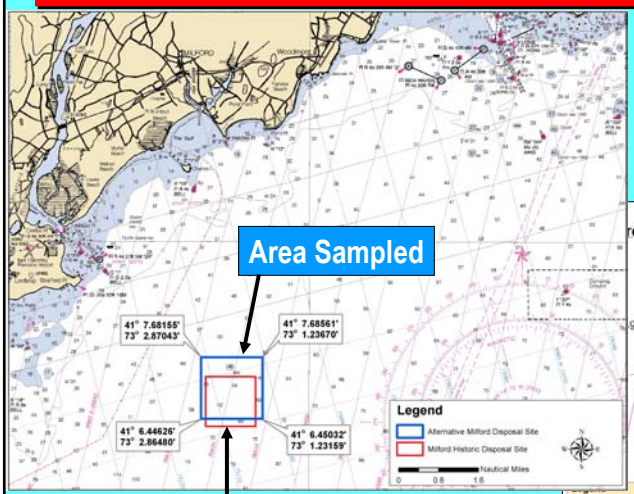
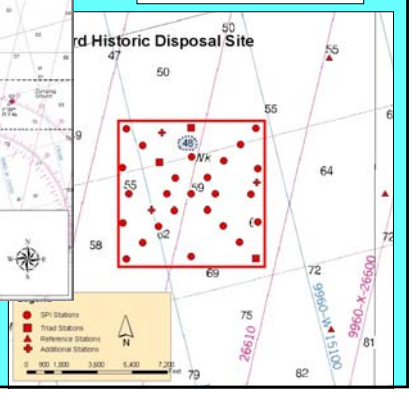
Area Sampled Near the Milford Historic Disposal Site



Sampling Station Distribution



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Information Collected on each Site

- Sediment Chemistry (Report in preparation)
  - Physical Measurements (Grain size and Specific Gravity)
  - Organic Contaminants (PAHs; Bis(2-ethylhexyl)phthalate; PCBs; Pesticides; Dioxin/Furans; Dioxin-like PCBs; TOC)
  - Inorganic Contaminants (Metals, AVS/SEM)
- Benthic Community Structure (Report in preparation)
- Sediment Toxicity (Report completed – see Web site)
- Habitat and Sediment Characteristics (Report in preparation)
- Bottom Topography and Historic Usage (Report in preparation)
- Lobster Resources (Report completed – see Web site)

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Sediment Chemistry

- All physical and chemical measurements have been completed.
- The final data reports will be submitted this week and will be available on EPA's website
- Data interpretation will occur in the EIS.

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6

Historic Sites – Benthic Community Structure

- Sediment Profile Imaging
  - Found both Bridgeport and Milford to be predominantly fine-sand-silt-clay.
  - Sediments at both sites were uniform and showed no signs of sediment layering.
  - Both sites support a diverse benthic community

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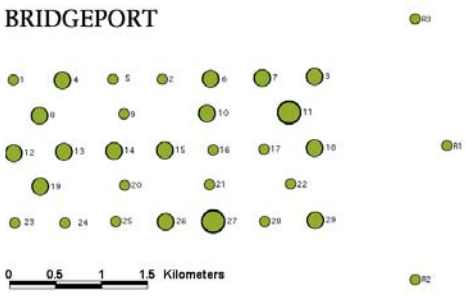
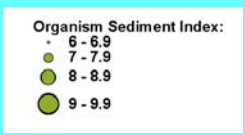
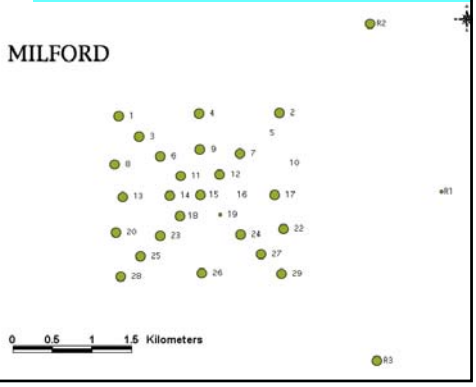
Historic Sites – Benthic Community Structure







OSI can range from –10 (poorest quality) to +11 (highest quality)

OSI values >6 indicate good habitat conditions

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Historic Sites – Benthic Community Structure

- Sediment samples were sieved to collect benthic infauna.
- Associated animals were sorted and identified to the lowest taxonomic category for each sampling location.
- Data interpretation in process including:
  - Species abundance
  - Dominant infaunal species
  - Evenness of distribution
  - Community patterns

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Historic Sites – Sediment Toxicity

- Performed Acute toxicity (10-day *Ampelisca abdita)* tests following guidance provided by the *Evaluation of Dredged Material Proposed for Ocean Disposal—Testing Manual* and *Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters*
- Toxicity of the sediment was evaluated based on the average mortality of organisms
- Average mortality was found to be low at both Bridgeport and Milford (>80% of all A. abdita survived at all stations sampled)
- Survival was similar to that observed at reference stations.
- Sediments from these sites are presumed to not be acutely toxic to benthic organisms.

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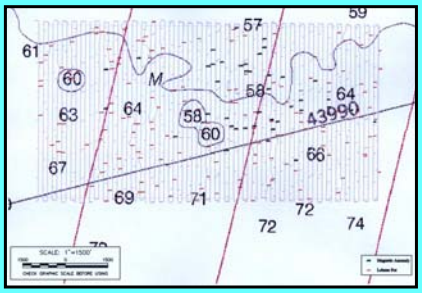
Historic Sites – Habitat and Sediment Characteristics

- Archaeological and Geomorphological surveys were conducted at each alternative site in August and September 2002.
- Data were collected along parallel tracklines spaced 50-meters apart and centered on both of the existing site locations



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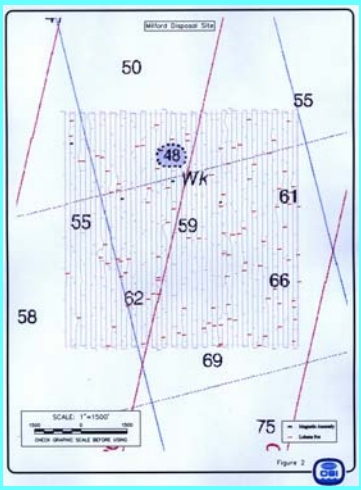
Historic Sites – Habitat and Sediment Characteristics



- Data collected included:
  - Hydrographic
  - Magnetometer
  - Sub-bottom profiling
  - Side-scan Sonar
- Interpretation of the collected data is presently being conducted.

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Lobster Resources

- 3 meetings were held in Connecticut to ascertain the use by lobsters of the WLIS, CLIS, Bridgeport and Milford sites.
- Lobstermen and fishermen were interviewed regarding lobster, shellfish, and fish populations in the areas surrounding the sites.
- Several general conclusions were drawn from these conversations.
  - Dredged material disposal within LIS does not appear to have a negative impact on lobstering.
  - Disposal activities within LIS could be considered beneficial to the lobster community because catch information suggests the lobsters may favor the dredged material for its soft muddy content that sustains burrows and possible food sources.

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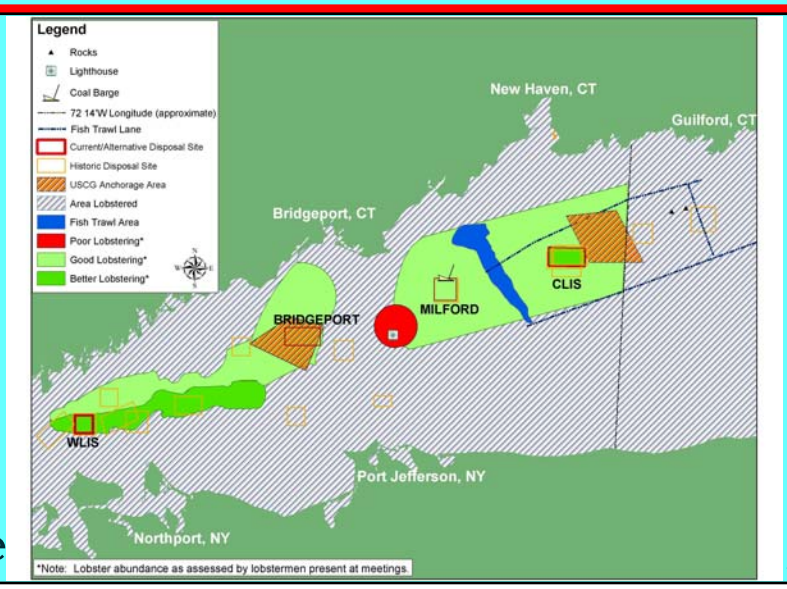
Lobster Resources



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Analysis and Reporting

- Data from the field sampling effort will be analyzed and compiled into data reports.
- Once finalized, these reports will be made available to the public on the Long Island Sound Website (http://www.epa.gov/region01/eco/lisdreg/index.html)
- All reports from this sampling effort should be available between January and February 2003. Check the website every 2 weeks for updates.

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ATTACHMENT 4

Status of the Long Island Sound Dredged Material Disposal Site Designation EIS Presentation

Long Island Sound Dredged Material Disposal Site Designation Environmental Impact Statement

Status of the Long Island Sound Dredged Material Disposal Site Designation EIS

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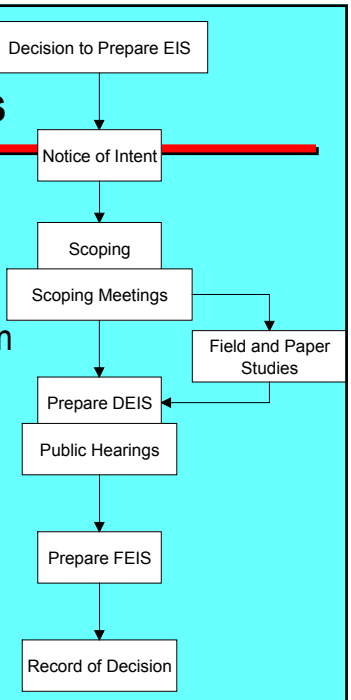
1

Steps Taken in the EIS Process

- June 1999 Notice of Intent published in Federal Register.
- Scoping meetings were held in October 1999 to collect information on public concerns regarding the designation of an open water dredged material disposal site.
- 1999 – 2002 Collection of a variety of data on alternatives and Long Island Sound in general
- May 2002 Interagency Meeting reviews change in ZSF and data, and identifies alternatives for review in the EIS.



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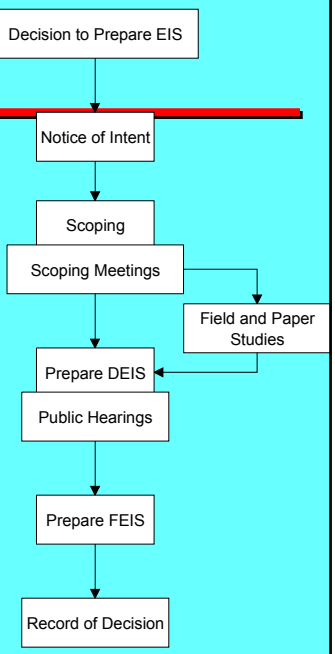
Steps Taken in the EIS Process

Ongoing tasks

- Interpret previously collected data
- Run models to predict fate and transport of sediment at sites
- Write DEIS sections



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EIS Preparation

- EIS Outline
  - Executive Summary
  - Introduction
  - Purpose and Need
  - Alternatives
    - Proposed Action
  - Affected Environment
  - Environmental Consequences
  - Applicable Laws, Regulations, and Permits (Proposed Action)
- Additional Sections
  - Site Monitoring Management Plan(s) [Required for disposal site(s)]
  - Appendices

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Purpose and Need Section General Requirements

	LIS EIS
• Need to which the agency is responding	• Harbors and rivers throughout the LIS region are in need of continued dredging due to shoaling.
• Purpose of the proposed action	• Designate one or more site(s) for disposal of dredged material approved for open water disposal
• Proposed action statement	• Designation of open water dredged material disposal site(s) in LIS

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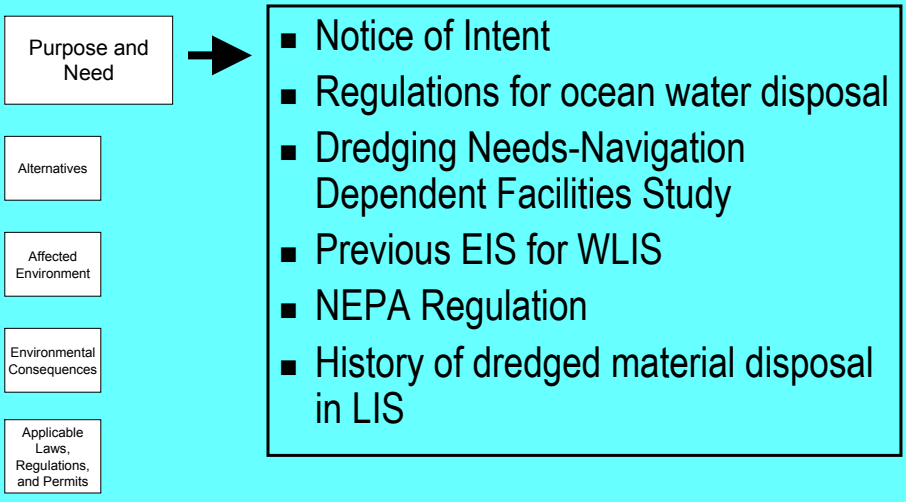
Information Used to Write the LIS EIS – Purpose and Need



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Alternatives Section General Requirements

- Each alternative being considered in the EIS is described in sufficient detail to define the issues sharply and to provide a clear basis for choice among the options.
- A "no action" alternative must be included

LIS EIS Alternatives

- **Determined through Site Screening Process**
  - **Western LIS (WLIS)**
  - **Bridgeport**
  - **Central LIS (CLIS)**
  - **Milford**
  - **No Action**

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Information Used to Write the LIS EIS – Alternatives

Purpose and Need

Alternatives →

Affected Environment

Environmental Consequences

Applicable Laws, Regulations, and Permits

- Federal Guidance for designation of ocean dredged material disposal sites
- Alternatives Site Screening Report (July 2002)

Other Alternatives to Ocean Disposal (Brief General Descriptions)

- Identification of Potential Upland Alternative Disposal Sites
- Beneficial Uses
- Confined Aquatic Disposal
- Dredged-material decontamination technologies

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Affected Environment General Requirements

- Succinctly describe the environment of the area(s) to be affected by each alternative(s)
  - Natural Resources
    - Physical Setting
    - Meteorology
    - Physical Oceanography
    - Sediment Quality
    - Water Quality
    - Biological Resources and Ecology
  - Socioeconomic Resources
    - Commercial and Recreational Fishing Activities
    - Shipping/Navigation
    - Beaches
    - Parks/Natural Areas
    - Historic/Archaeological Resources
    - Other Human Uses

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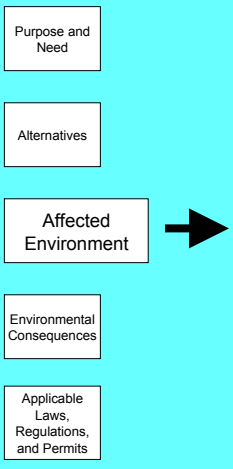
Information Used to Write the LIS EIS – Affected Environment



- General description of the LIS environment
  - Background information from studies conducted in LIS (literature)
- WLIS and CLIS
  - DAMOS Monitoring Reports
  - Data collected in support of the LIS EIS (1999 – 2002)
- Bridgeport and Milford
  - DAMOS Monitoring Reports
  - Reports from July/August 2002

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Environmental Consequences General Requirements

- Scientific and analytical basis for the comparisons of the alternatives presented in the alternatives section
- Includes the potential environmental impacts of each alternative
- Adverse environmental effects which cannot be avoided should the proposal be implemented as well as any mitigation of the effect
- Relationship between short-term uses of man's environment and maintenance and enhancement of long-term productivity
- Any irreversible and irretrievable commitment of resources

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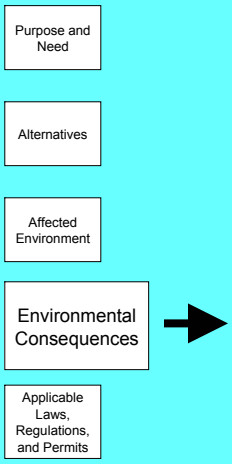
Evaluation of Environmental Consequences



- Comparative analysis is conducted through
  - Consideration of general impacts of dredged material disposal using
    - DAMOS Reports
    - Published Literature
  - Site specific assessments
    - Sediment Transport Modeling
    - Risk Assessments
    - Socioeconomic analyses
    - Other reports

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Applicable Laws, Regulations, and Permits

- The EIS must list/discuss all Federal permits, licenses, and other entitlements that must be obtained to implement the proposal.
- Interagency coordination, environmental analyses, and related surveys and studies under the following statutes
  - Fish and Wildlife Coordination Act
  - National Historic Preservation Act
  - Endangered Species Act

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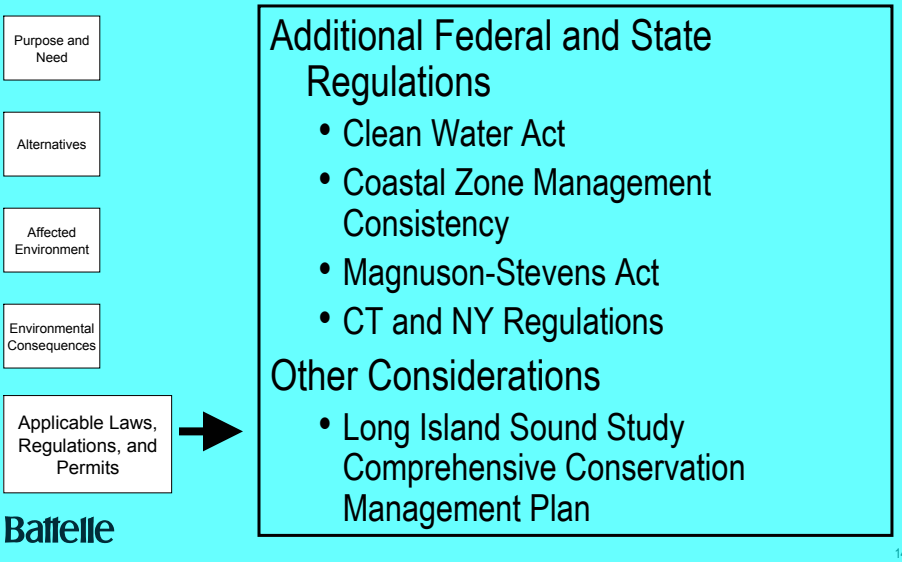
Laws and Regulations Assessed in the LIS EIS



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Proposed Alternative

- The proposed alternative will describe the alternative which EPA has chosen based on the results of the EIS evaluation.

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Site Management Monitoring Plans (SMMP)

- If the results of the Environmental Impact Statement lead to one or more open water dredged material disposal sites [MPRSA Section102(c)(3)], a SMMP must be developed for each site chosen.

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Site Management Monitoring Plans (SMMP)

- Each SMMP will include
  - A baseline assessment of conditions at the site;
  - A program for monitoring the site;
  - Special management conditions or practices to be implemented at each site that are necessary for protection of the environment
  - Consideration of the quantity of the material to be disposed of at the site, and the presence, nature, and bioavailability of the contaminants in the material;
  - Consideration of the anticipated use of the site over the long term, including the anticipated closure date for the site, if applicable, and any need for management of the site after the closure of the site; and
  - A schedule for review and revision of the plan (which shall not be reviewed and revised less frequently than 10 years after adoption of the plan, and every 10 years thereafter).

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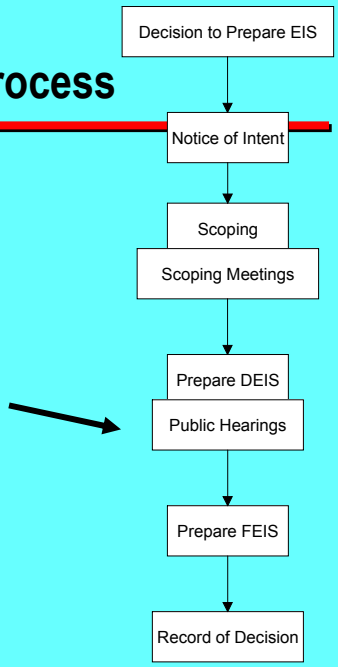
Next Steps Taken in the EIS Process

When the DEIS is published,
- Public will have 45-days to submit comments on the draft EIS
- EPA will hold a Public Hearing to present the EIS findings

Public Comments will be
- Reviewed by EPA
- Considered towards revisions to the EIS, and
- Responded to by the agencies.



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